

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1 – 53 (Cancelled)

54. (Currently Amended) An apparatus comprising:

a thermal interface material having a first side to attach to a cooling device, and a second side to receive heat from an integrated circuit by contacting the integrated circuit at a heat transfer area;

an adhesive attached to the first side [[area]] wherein the adhesive is attached to a portion of the first side that is outside the heat transfer area.

55. (Currently Amended) The apparatus of claim 54, wherein the thermal interface material comprises a film having a phase-change material to change phase by receiving the heat from the integrated circuit.

56. (Currently Amended) The apparatus of claim 54, wherein the adhesive is attached along a plurality of edges of the thermal interface material.

57. (Previously Presented) The apparatus of claim 56, wherein the plurality consists essentially of two.

58. (Previously Presented) The apparatus of claim 56, wherein the plurality comprises four.

59. (Previously Presented) The apparatus of claim 54, wherein the adhesive is attached along a periphery of the heat transfer area.

60. (Previously Presented) The apparatus of claim 54, wherein the adhesive comprises a strip having a thickness between about 0.0125 millimeters and 0.025 millimeters.

61. (Currently Amended) The apparatus of claim 54, further comprising the cooling device attached to the first side of the thermal interface material.

62. (Currently Amended) The apparatus of claim 61, further comprising the integrated circuit attached to the second side of the thermal interface material.

63. (Currently Amended) An apparatus comprising:

[[a cooling device to receive heat from an integrated circuit;]]

a phase changing thermal interface material to thermally couple [[the]] a cooling device with [[the]] an integrated circuit, the phase changing thermal interface material comprising:

a heat transfer area between the integrated circuit and the cooling device,

a first surface to receive the heat from the integrated circuit by contacting the integrated circuit within the heat transfer area,

a phase change material to change from a solid phase to a liquid phase by absorbing the heat from the integrated circuit at the first surface, and

a second surface to provide the heat to the cooling device by contacting the cooling device within the heat transfer area; and

an adhesive to attach the thermal interface material to the cooling device, wherein the adhesive is attached to the thermal interface material substantially outside the heat transfer area.

64. (Currently Amended) The apparatus of claim 63, wherein the thermal interface material comprises a Chomerics T443 film.
65. (Previously Presented) The apparatus of claim 63, wherein the adhesive comprises a pressure sensitive adhesive.
66. (Previously Presented) The apparatus of claim 63, wherein the adhesive comprises a strip having a thickness between about 0.0125 millimeters and 0.025 millimeters.
67. (Currently Amended) The apparatus of claim 63, wherein the adhesive is attached at a plurality of edges of the thermal interface material.
68. (Previously Presented) The apparatus of claim 67, wherein the plurality consists essentially of two.
69. (Currently Amended) The apparatus of claim 63, wherein the adhesive is attached along a periphery of the thermal interface material.
70. (Currently Amended) The apparatus of claim 63, further comprising the [[integrated circuit]] cooling device attached to the [[first]] second surface of the thermal interface material to provide the heat to the thermal interface material.
71. (Currently Amended) An apparatus comprising:
 - a thermal interface material comprising a first surface to receive heat from a microelectronic device at a heat transfer area and a second surface;
 - a cooling device attached to the second surface to receive the heat from the second surface of the thermal interface material; and

adhesive applied to the second surface of the thermal interface material outside the heat transfer area to attach [[means for attaching]] the cooling device to the second surface of the thermal interface material.

72. (Currently Amended) The apparatus of claim 71, further comprising the microelectronic device attached to the first surface of the thermal interface material.
73. (Currently Amended) The apparatus of claim [[72]] 71, [[wherein the cooling device is pre-attached to the thermal interface substantially before the microelectronic device is attached to the thermal interface]] wherein the thermal interface material comprises one or more selected from a tape and a film, and wherein the adhesive comprises one or more strips of pressure sensitive adhesive.
74. (New) The apparatus of claim 54, wherein the thermal interface material comprises a tape.
75. (New) The apparatus of claim 54, wherein the thermal interface material comprises a film.
76. (New) The apparatus of claim 54, wherein the thermal interface material comprises a phase change material.
77. (New) The apparatus of claim 54, wherein the adhesive comprises a pressure sensitive adhesive.